

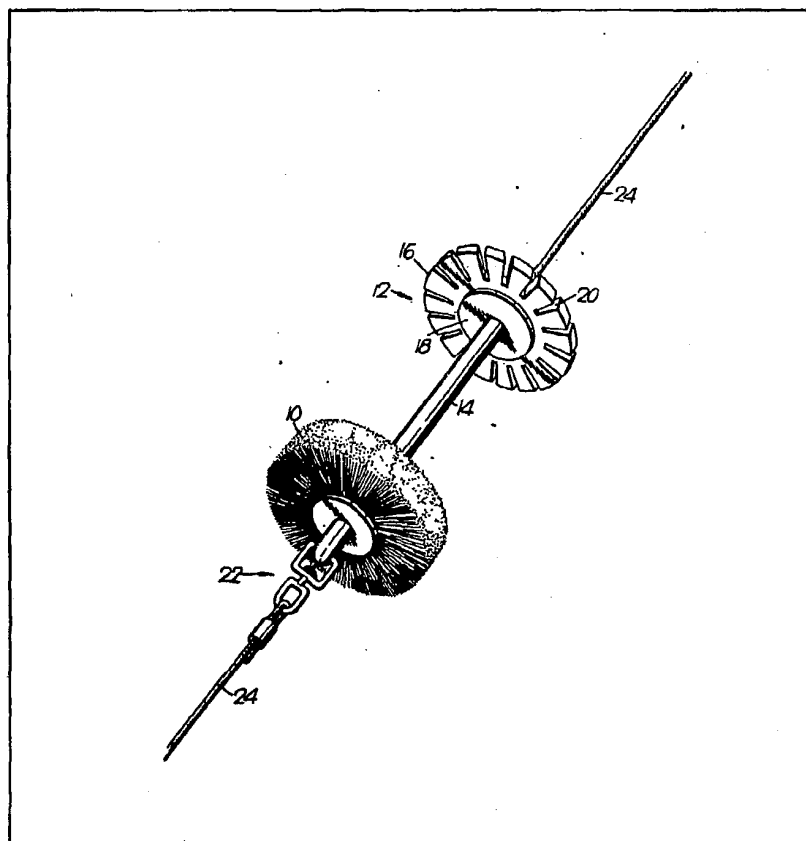
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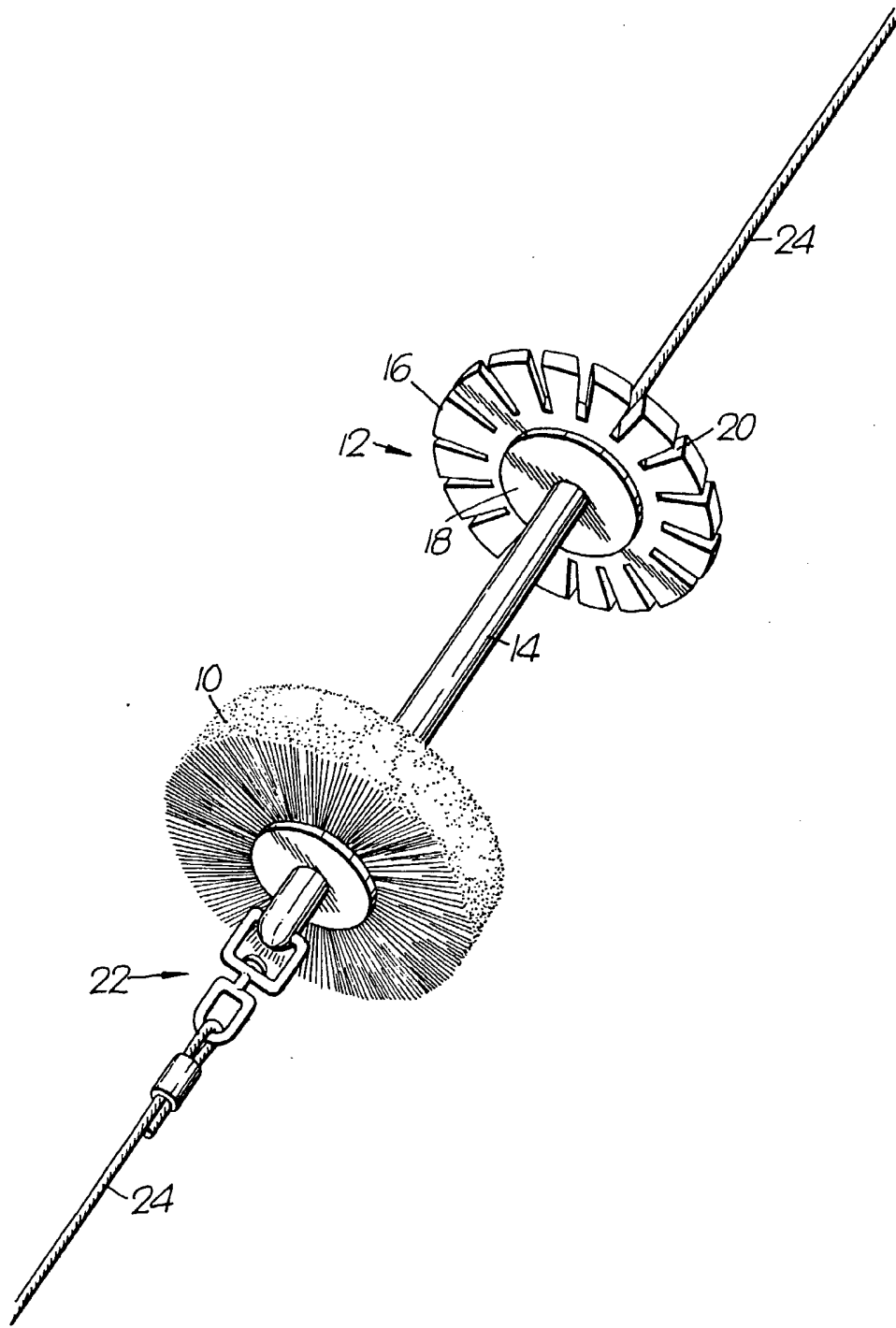
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(71) Applicants
Sewertech (Pty) Ltd., P.O.
Box 7105, Roggebaai
8012, Cape Town, South
Africa
(72) Inventor
Albert Edward Du Triou
(74) Agents
J. A. Kemp

(54) Pipe cleaner

(57) A fluid-propelled pipe cleaner includes a circular wire brush 10, joined by a rod 14 to a resilient disc 16 for holding the brush perpendicular to the axis of a pipe as it is moved through the pipe and a swivel 22 for attaching at least one cable 24 to the cleaner. Slots 20 in the disc 16 are angled to produce rotation of the cleaner and also to direct flushing jets against the pipe wall.



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SPECIFICATION

Pipe cleaner

5 This invention relates to a pipe cleaner and particularly pipes such as sewers and the like.

A pipe cleaner according to the invention includes a circular brush, means for holding the brush perpendicular to the axis of a pipe as it is moved
10 through the pipe and means for attaching at least one cable to the cleaner.

In one form of the invention the holding means is a rigid shaft on which the brush is concentrically located and means on the shaft spaced from the
15 brush for holding the shaft perpendicular to the axis of the pipe. Preferably the shaft holding means is a disc shaped piston which is made from a resilient material.

The piston may include a plurality of slots which
20 extend from the periphery of the piston radially inwards with the sides of the slots being inclined to the axial direction of the cleaner so that water under pressure on one side of the piston will cause the piston to rotate by turbine effect. The base of each
25 slot in the piston may be inclined towards the axial direction of the cleaner so that the water under pressure on one side of the piston will be directed away from the axial direction of the cleaner towards the surface of the pipe being cleaned by the cleaner.

30 An embodiment of the invention will now be described by way of example with reference to the drawing which is a perspective view of a pipe cleaner according to the invention.

The pipe cleaner is shown in the drawing to consist of a cylindrical wire brush 10, a piston 12 and a
35 rigid shaft 14 co-axially joining the brush to the piston.

The piston consists of a disc 16 which is made from resilient material such as synthetic rubber and
40 stiffening plates 18 which are fixed to the shaft and located on either side of the disc 16. A plurality of slots 20 extend from the periphery of the disc towards its centre. Each slot is inclined relatively to the axial direction of the shaft 14 and has a base
45 which slopes upwardly into the space separating the piston from the brush.

The shaft 14 is rigidly fixed to both the brush and the piston 12 and its ends each carry a swivel arrangement indicated generally at 22 to enable
50 cables 24 to be attached rotatably to the cleaner. The swivel arrangements, brush and piston are made to be removable from the shaft 14 so that brushes and pistons of various diameters may be used with the cleaner. In use, the cable is attached to the swivel on
55 the brush end of the shaft and fed in a conventional manner into a sewer to be cleaned. The cleaner is then lowered into the sewer and pulled by the forward cable 24 until water pressure on the back face of the piston propels the cleaner into and along the
60 sewer. Water under pressure on the back face of the piston will pass through the slots 20, and because of their inclination, will cause the piston and so the

brush 10 to rotate by turbine effect. Additionally, because of the upwardly sloping bases of the slots
65 20 the water jets passing from the back face of the piston into the space between the piston and brush will be upwardly directed against the surface of the sewer being cleaned to remove deposits which have been brushed from the inner surface of the sewer by the brush 10.

70 The resilient material of the disc 16 enables the cleaner to pass over irregularities in the walls of the sewer and yet trap roots, stones and the like which have been dislodged from the walls from the sewer by the brush 10 between the brush and piston 12.

CLAIMS

1. A pipe cleaner including a circular brush, means for holding the brush perpendicular to the axis of a pipe as it is moved through the pipe and
80 means for attaching at least one cable to the cleaner.

2. A pipe cleaner as claimed in claim 1 in which the holding means is a rigid shaft on which the brush is concentrically located and means on the shaft
85 spaced from the brush for holding the shaft perpendicular to the axis of the pipe.

3. A pipe cleaner as claimed in claim 2 in which the shaft holding means is a disc shaped piston which is made from a resilient material.

4. A pipe cleaner as claimed in claim 3 in which
90 the piston is apertured to enable the passage of water in the pipe.

5. A pipe cleaner as claimed in claim 4 in which the apertures in the piston are a plurality of slots which extend from the periphery of the piston
95 radially inward with the sides of the slots being inclined to the axial direction of the cleaner so that water under pressure on one side of the piston will cause the piston to rotate in the pipe by turbine effect.

100 6. A pipe cleaner as claimed in claim 5 in which the base of each slot in the piston is inclined towards the axial direction of the cleaner so that water under pressure on one side of the piston will be directed away from the axial direction of the cleaner towards
105 the surface of the pipe.

7. A pipe cleaner as claimed in any one of claims 2 to 6 in which each end of the shaft carries a swivel arrangement to which a cable may be attached to enable the cleaner to rotate relatively to the cable.

110 8. A pipe cleaner substantially as herein described with reference to and as illustrated in the drawing.

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